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Further Studies of Attitude Measurement by a Word Association Technique*

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In a previous investigation, Havron (2,3) showed that two of the attitudes or values measured by the Allport-Vernon Study of Values could be assessed by a simple word association procedure. The present study was designed to explore the applicability of the technique to the measurement of other attitudes. To this end, word association triplets were developed which were thought to be related to attitudes of radicalism-conservatism, and to attitudes of authoritarianism-equalitarianism. The two sets of triplets were combined into a single test (together with neutral triplets), and the test was administered along with scales for the appropriate attitudes.

The Continuum of Radicalism-Conservatism

This attitude was chosen because of its general interest and because there was already available an instrument for the measurement of this continuum against which the word association triplets could be validated. The instrument used as a criterion measure was Lantz's C-R Opinionnaire (Form K) (5). The reliability of this opinionnaire is reported to be .837, and Lantz (4) has shown that people differentiated by the C-R Opinionnaire also differ significantly from one another in many other characteristics. Lantz's study, while it perhaps does not directly validate the Opinionnaire as a measure of radicalism-conservatism, offers much indirect evidence that the C-R Opinionnaire is valid.

The items in the Opinionnaire are designed to tap, in some way, the person's attitudes toward change. The conservative end of the continuum implies opposition and resistance to change and skepticism as to its possibility. The radical end, however, implies the desirability and possibility of drastic and speedy change (cf., Lantz, 5).

The word association triplet technique consists in presenting a stimulus word together with two response words. The subject is to draw a line from the stimulus word to the response word which he thinks goes best with the stimulus word. Consider the following triplet:

Different
BE
Average

On the basis of a priori considerations one could infer that the conservative would draw a line from the stimulus word BE to the response word Average, whereas the radical would draw the line to Different.

It is not possible, however, to design triplets on a priori basis which will have validity. Rather, triplet sets are designed, tested to see whether they will work, re-tested, and so on. Three types of the radicalism-conservatism triplets were developed and studied in this investigation.

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1. WA Form 1 consisted of 30 R-C (radicalism-conservatism) triplets, together with 30 authoritarianism-equalitarianism (A-E) triplets and 28 Neutral Triplets. The triplets were presented in random order, and the tendency of the subjects to mark up was controlled by placing half of each type of words as the top response word. WA Form 1 was administered to 48 undergraduate students in an advanced psychology course, together with the other scales. An item analysis of the R-C triplets was made on two bases: discrimination power in relation to the C-R Opinionnaire and in relation to total scores on the R-C triplets. Six R-C items were dropped on the basis of this analysis, and several others were altered. A second form (WA Form 2) was then developed, containing the remaining and altered 24 R-C triplets and nine new ones (together with 28 A-E triplets and 28 neutrals.) This scale was administered to another group of 27 undergraduate students, and the results were subjected to analysis in terms of internal consistency (the correction instruments were not used in this phase of the study). From the study of WA Form 2, 24 R-C triplets with the highest discrimination value were retained for WA Form 3, the final word association triplet form developed in this study.

WA Form 3 and the C-R Opinionnaire were administered to undergraduate students in introductory psychology classes. There were 133 cases in which both the triplet and the Opinionnaire forms were available, and the Pearson r for these cases was significant at better than the .01 confidence level. An item analysis shows that 20 of the 20 R-C items successfully discriminated high and low scoring subjects on both the external (C-R Opinionnaire) and the internal (total scores on WA Form 3) criteria.

The correlation of .42 obtained as described above is not as high as one would wish and is less than the r of .68 which Havron reported between his triplets and Allport-Vernon scores. Havron's correlation, however, was computed for the seventh triplet form developed through successive trials and item analysis. The present WA Form 3 was the only third revision. It seems likely that further study of the R-C triplets would produce an instrument with as high a degree of validity for Radicalism-Conservatism as Havron found for political-religious values. As shown by Havron, the reliability of the triplet technique is satisfactory.

One problem commented upon by Havron was that his subjects often detected the nature of the task they were carrying out. In the later revisions of his triplet forms, Havron attempted to control this by introducing randomly some neutral or buffer items. The same technique was used throughout this study. WA Form 3 included 16 neutral items. In addition, it included 2 A-E triplets, designed to investigate another attitude continuum (see below). Similar neutral and A-E items were contained in WA Forms 1 and 2.

The effectiveness of these controls was investigated with WA Forms 1 and 2. After the subjects (undergraduate in intermediate and advanced psychology courses) had completed these forms, they were asked to write down what they thought was being measured by the word association test. Only three of the 81 replies could be construed as approaching correctness. This suggests that in this study, at least, the subjects were unaware of what was being tested.

It may be concluded from the material presented so far that the word association triplet technique has validity as a measure of an additional attitude. The theoretical implications of this finding have been presented earlier (2,3).

The Authoritarian - Equalitarian Continuum

This continuum was studied, because it has been extensively discussed in recent years and because the California F scale (1), designed to measure it, has been and is being widely used. Word association triplets (A-E) were developed and included in WA Form 1, 2, and 3, as previously described. The California F scale was reproduced* and administered along with WA Forms 1 and 3, and the C-R Opiopnaire. The same subjects were, of course, used as had been used in the R-O study.

Item analyses of the A-E triplets showed high internal discriminatory power which increased from WA Form 1 to WA Form 3. In relation to the F Scale, however, (the external criterion), discrimination power was low. The correlation between the score for the A-E triplets (WA Form 3) and the F Scale for 78 subjects was .18, insignificant even at the .05 level.

It is not possible accurately to assess the reasons for the failure of WA Form 3 to measure validly the attitudes measured by the F Scale. It may be that the A-E triplets are invalid, although they have high internal consistency and the distribution of scores on them is normal. Two features of the F-Scale are worthy of mention in this connection and may account for the lack of relationship. They likewise raise questions as to the value of the F-Scale.

The F-scale items are answered on a six-point scale, from Strongly Agree to Strongly Disagree. The item scores are summed, and the sum is divided by the number of items. The resulting number is the scale position of the subject, and a strongly authoritarian person should have a score near 6 and a strongly equalitarian person near 1. In our sample, only 10 of the 78 subjects scored above the mid-point of 3.5, and only one of the 10 scored as high as 5. Either the scale is dealing only with the lower end of the continuum or this group is heavily equalitarian in attitude. This markedly skewed distribution, however, would tend to reduce correlation.

The other feature of the F-scale was observed in an item analysis with F-scale high and low scores as the criterion. The purpose of this was to investigate the discriminatory power of the items in the F-scale, when the subjects in the highest and lowest quartiles (total score) were compared. The discriminatory power of a number of the items was low, and it would appear that the F-scale does not meet desirable standards of internal consistency. This fact, also, may account for the lack of relationship between the A-E triplets and the F-scale.

It may be concluded, then, that the attempt to determine whether word association triplets would measure the attitude continuum of authoritarianism-equalitarianism failed. Questions have been raised, however, concerning the adequacy of the F-scale as a criterion.

*Permission to reproduce the F-scale from The Authoritarian Personality (1) was given by Harper and Brothers Publishers. The writers wish to express their appreciation to the Publishers.

WA FORM 3

| | | | | | |
|-------------------|-----------------------------|-----|----------------|-------------------------------|-----|
| 1. LAW | understand obedience | A-E | 16. SOCIAL | prestige progress | A-E |
| 2. DEATH PENALTY | warranted inhuman | R-C | 17. UNRESSED | natural indecent | R-C |
| 3. SUN | heat solar system | N | 18. CHARACTER | reason will power | A-E |
| 4. SUCCESS | satisfaction rich | A-E | 19. ANTAGONISM | fight misunderstanding | A-E |
| 5. FREE | love trade | R-C | 20. MAC ARTHUR | ridiculous wronged | R-C |
| 6. PAINT | pictures houses | N | 21. NOTRE DAME | college football | N |
| 7. GENERAL | MacArthur Eisenhower | A-E | 22. WILL POWER | persevere win | A-E |
| 8. ATHEISM | pagan enlightened | R-C | 23. CRIMINALS | punish educate | R-C |
| 9. PAPER | news them | N | 24. LOVE | food quiet | N |
| 10. GIVE | orders aid | A-E | 25. DEVELOP | self control understanding | A-E |
| 11. MERCY KILLING | sacrilegious humane | R-C | 26. MISTRESS | continental immoral | R-C |
| 12. TRY | succeed fail | N | 27. COLD | war weather | N |
| 13. LEADER | authority responsibility | A-E | 28. INSULT | forget revenge | A-E |
| 14. NATIONALISM | war empire | R-C | 29. HIROSHIMA | justified shameful | R-C |
| 15. MUSIC | restful stimulating | N | 30. AVOID | criticism people | N |

WA FORM 3 (cont'd)

| | | | |
|---------------------------------------|-----|--|-----|
| 31. CARRY OUT orders plans | A-E | 46. COMMAND troops respect | A-E |
| 32. MORES question conform | R-C | 47. ARMY protection regimentation | R-C |
| 33. LIVE long well | N | 48. NEGROES inferior equal | R-C |
| 34. FIGHT enemies disease | A-E | 49. WORK for with | A-E |
| 35. PROTECT minorities survive | R-C | 50. SEGREGATION unjust proper | R-C |
| 36. REDUCE profits controls | R-C | 51. WRITE music poetry | N |
| 37. UNIVERSAL peace military training | A-E | 52. OBEDIENCE TO self superiors | A-E |
| 38. SOCIALISM equality restrictions | R-C | 53. RADICALISM impractical progressive | R-C |
| 39. CIGARETTE harmful relaxing | N | 54. BE different average | R-C |
| 40. ACCEPT authority reason | A-E | 55. PROSTITUTE unfortunate immoral | A-E |
| 41. CANDIDATE Democrat Republican | R-C | 56. SECURITY wealth peace | R-C |
| 42. POGO possum stick | N | 57. SINGLE one unmarried | N |
| 43. BE fair wealth | A-E | 58. MEDICINE socialized private | R-C |
| 44. UNITED nations states | R-C | 59. UNIONS threatening desirable | R-C |
| 45. THINK fast through | N | 60. GAME tennis chess | N |

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